BRIEF NOTE

TRILLIUM NIVALE (LILIACEAE): THE SNOW TRILLIUM IN OHIO.

Trillium nivale occurs among dry leaves in woodlands along streams and rivers, and in ravines where the soil is very thin over limestone or dolomite bedrock. The dwarf white or snow trillium's distribution in Ohio is primarily west of a line separating the calcareous (limestone and dolomite bedrock) portion of the state from the noncalcareous (shale and sandstone bedrock) portion to the east (fig. 1). In Delaware and Franklin counties, *T. nivale* occurs in the area of the Columbus Limestone of Devonian age. Elsewhere in southwestern Ohio, the snow trillium occurs primarily in thin soil over Silurian dolomite bedrock. The plants are absent from the area of Ordovican dolomite bedrock in southwestern Ohio (fig. 1, stippled area). Many of the localities for the species are on exposures of the Silurian Brassfield Limestone or Cedarville Dolomite in southwestern Ohio.

T. nivale is very small, ranging from 2 to 6 inches high. The leaves have short petioles and small ovate or oval bluish-green blades. The flower has small white petals, which soon wither. After pollination, the short peduncle bends downward so that, about a week or two after the end of flowering, the recurved peduncles and young fruit are located below the leaves. Two to three weeks after flowering the leaves and stems begin to die and the plants become

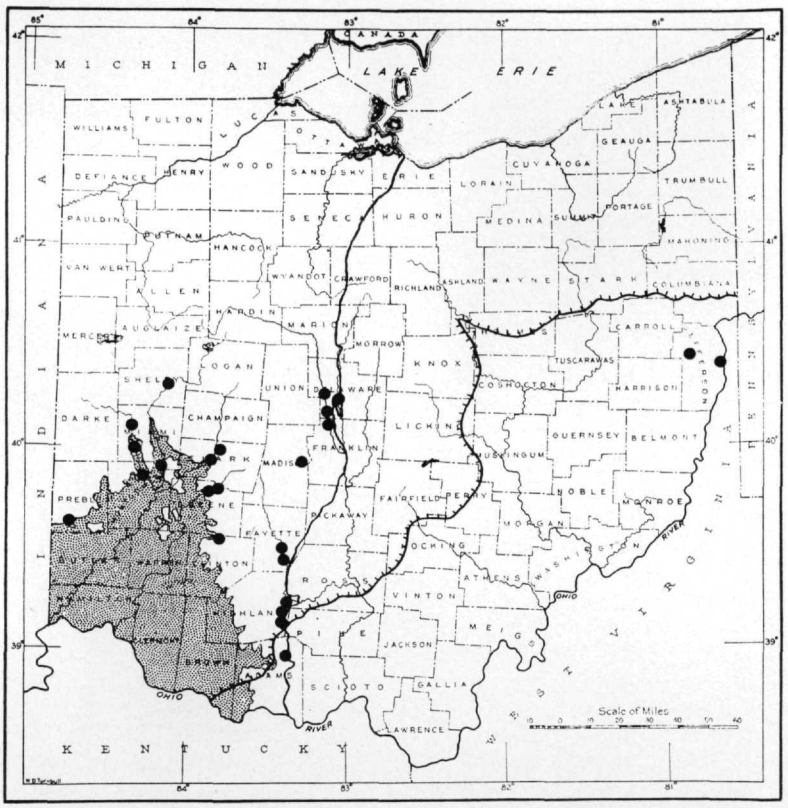

FIGURE 1. The known distribution of *Trillium nivale* in Ohio. Large black dots indicate known sites of occurrence. Stippled portion is the region of Ordovician dolomite from which *T. nivale* is absent. The line from Brown to Columbiana County shows the maximum extent of glaciation.

surrounded by later growing taller plants. Within a month the above-ground parts of the snow trillium are no longer seen. In Franklin County it blooms about March 23 to April 7, but because of unusually warm weather in February 1976 plants were in bloom as early as March 1.

Two locations, quite removed from its range in western Ohio, are known for *T. nivale* in Jefferson County, eastern Ohio. Here the plants occur in isolated locations on exposed calcareous rock. Additional isolated occurrences of the snow trillium in eastern Ohio are not known. The species also occurs in western Pennsylvania and northeastern West Virginia. Westward it ranges into Indiana, Illinois, Missouri, Iowa, and locally north into Wisconsin and Michigan.

The distribution of *T. nivale* in western Ohio is within the area that was covered by the continental glaciers (fig. 1). This distribution presents an intriguing question. Where did *T. nivale* survive during the periods of glaciation? We would expect that the species survived in similar habitats in the unglaciated area to the south or southeast. In Ohio, such habitats of thin soil over unglaciated dolomite bedrock are essentially limited to Adams County. Only in Ohio does *T. nivale* occur in soil over unglaciated dolomite rock. Thus in Ohio and farther south in Kentucky, where similar substrate conditions occur, *T. nivale* could have survived during glaciation and these populations could have supplied the propagules for its spread to the north.

The species has been reported from relatively few locations in Ohio, because of the special habitat requirements for *T. nivale*. Figure 1 shows all known locations for the plants based on preserved specimens in the herbarium of The Ohio State University and those locations cited by Harper (1949) and Selby (1890). Its distribution has been confirmed in recent years in Madison, Miami, Greene, Adams, Highland, Fayette, Franklin, Delaware, and Jefferson counties. The limited occurrence and distribution of the snow trillium make it a candidate for the endangered and threatened species list for Ohio. Perhaps the largest colony known is at the northern-most location in Ohio, where it occurs in a woods on the high east bank of the Scioto River, just south of a limestone quarry about 0.75 mi southeast of White Sulphur in Delaware County. Smaller colonies are found in Franklin county on the west bank of the Scioto River Valley below O'Shaughnessy Dam and on the east bank about 0.5 mi south of the state route 161 bridge at the town of Dublin. Selby (1890) reported *T. nivale* as occurring on:

> "the limestone banks of the Scioto and its confluent ravines, . . . In certain places along the Scioto River it is very abundant, especially so on either bank a short distance above Fishinger's Mill, situated four miles from the Dodridge Street bridge, North Columbus."

The increased numbers of houses and recreational areas established along the Scioto River since 1890 have undoubtedly destroyed the snow trillium's habitat and decreased the number of locations and the size of isolated populations of *T. nivale* in the Scioto valley. *T. nivale* is not known from the well-explored shale banks along the Olentangy River in Franklin County. Its single occurrence along the Olentangy River is in the portion where limestone bedrock is exposed along the east bank about a mile south of Stratford in Delaware County.—RONALD L. STUCKEY, *Department of Botany, The Ohio State University, Columbus, Ohio 43210.*

LITERATURE CITED

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